



# FLIGHT

The  
AIRCRAFT  
ENGINEER  
&  
AIRSHIPS



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"FLIGHT" PHOTOGRAPHS.

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DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list:—

- 1927
- Feb. 10 .... "Flying for Air Survey Photography." Capt. F. Tymms, before Inst.Ae.E.
- Feb. 17 .... "The Design and Operation of Commercial Aircraft." Major R. H. Mayo, before R.Ae.S.
- Feb. 22 .... "Aviation in Australia," Flt.-Lt. J. Renison Bell (R.A.A.F.) before Inst.Ae.E.
- Mar. 3 .... "The Spinning of Aeroplanes." Mr. L. W. Bryant, before R.Ae.S.
- Mar. 8 .... "Portable Hangars." Major H. N. Wyllie, before Inst. Ae.E.
- Mar. 16 .... Inst. Ae.E. Visit to the Factory of A.D.C. Aircraft, Ltd., Waddon.
- Mar. 17 .... "Line Squalls." Mr. M. A. Giblett, M.Sc., before R.Ae.S.

EDITORIAL COMMENT.



IN the present issue of FLIGHT appear various official announcements relating to the air racing programme for 1927. Generally speaking, these announcements are of a preliminary character, but at any rate they do indicate approximately the date, place and character of the various events.

The race for the Challenge Cup presented by His Majesty the King is planned for August Bank Holiday, and this year an innovation is provided by transferring the centre for this race to Bournemouth. Whether this move is a good one is, perhaps, open to discussion. There is a good deal to be said for having the starting and finishing point at some popular seaside resort, and Bournemouth may be as good as any. We are not quite convinced, however, that the manner of flying the race is the best that could have been chosen. From the official announcement it will be seen that the race is to be over a distance of 525 miles, divided into three stages of 175 miles each, and each stage to consist of seven laps of a 25 miles' course mapped out in the Bournemouth district. This is rather by way of changing the character of the race. Last year two triangular courses were flown, it is true, but previous to that the race for the King's Cup had been in the nature of a Circuit of Britain. Whether it is wise to change the race in such a manner as to make it of a purely local nature is, it seems to us, extremely doubtful. Surely the very fact that the race is for a challenge cup presented by the King should in itself mean that the race should be *national* as far as possible. That is not likely to be attained by holding the race within a short radius of a town on the south coast. Very few people from the North and Midlands are likely to go to the trouble and expense of travelling to Bournemouth in order to see an air race, even for a cup presented by His Majesty. What will happen is that relatively few people will see the competing machines a great number of times, whereas it appears to us that the

aim should rather have been to try to let as many people as possible see the machines, even if only once or twice. We have no objection to air races at Bournemouth. In point of fact, week-end air races around the 25 miles' course at frequent intervals during the summer would be very excellent air propaganda. The point we do raise is that, of all races, it is that for the King's Cup which has been so planned.

The preliminary regulations for the Schneider Cup this year do not give any indication of changes of importance. The distance to be flown is 350 km. or 217.5 land miles, consisting of seven laps of a 50 km. course. It would appear that nothing is said concerning the "lay-out" of this course, and in view of the extremely difficult nature of cornering with fast racing machines it might, we think, be a good thing to change from the triangular course usually provided to a hexagonal or octagonal one.

"Secreter  
and  
Secreter"

The prize plum—so far—promises to be the Aerial Derby. Started originally as an international event, that race for years failed to attract foreign competitors because the prizes offered were not of sufficient magnitude to make it worth while sending a machine to this country. The race then degenerated into a purely national one, in which usually it was perfectly obvious beforehand which machine would win. Finally, the race was abandoned altogether. We are now told that the Bournemouth course is considered unsuitable for the Aerial Derby, and that it has been decided "to survey the Cranwell district and Salisbury Plain for a suitable course."

Visualising such a selection, can "recklessness" go much farther? In such densely-populated districts, surely it will be found extremely difficult to ensure that nobody shall see the machines. May we respectfully suggest that the Timbuctoo district and

the Goby Desert be surveyed for a suitable course. There, at any rate, there is a very good chance that only a few incomprehensive indigenes may see the machines.

Seriously, is it really possible that the intention actually is to hold the Aerial Derby on Salisbury Plain or "in the Cranwell district?" And if so, what possible reason can there be for such a choice? What have we got in the way of fast machines that would require such very special country? Presumably the fastest machines we can muster will take part in the race for the King's Cup. If they are safe in that, why not in the Derby? Or is it that foreign competitors are expected, and have stipulated flying grounds such as those found much more frequently in France than in this country? If that is the reason, what do we propose to put up against these foreign competitors? Surely it cannot be that the Air Ministry has relented to the extent of permitting the four single-seater fighters, which are believed to be individually and collectively the fastest in the world, to take part in the Derby? That would be welcome news indeed, but even so would not account for choosing "the Cranwell district or Salisbury Plain," as anyone will admit who has had the good fortune to see these machines landed by the firms' test pilots. Bert Hinkler puts the Avro "Avenger" down into the old Hamble aerodrome without trouble. Macmillan does what he likes with the Fairey "Firefly." Bulman floats into Brooklands at next to no speed on the Hawker "Hornbill," and Piercey treats the Gloster "Gorcock" as he would a "Grebe" or a "Gamecock." Then why "the Cranwell district or Salisbury Plain?" "The Derby" is acclaimed *the* one day for "the people." In the original selection of the name of "The Aerial Derby," one is entitled to imagine that the main object was to emulate the popularity of its sire. Once again, therefore, why then "Cranwell or Salisbury Plain"?

### The King's Cup Air Race

THE Royal Aero Club has submitted the conditions for this year's Race to the King, and they have received His Majesty's approval.

The Race will be over a course of approximately 525 miles divided into three stages of 175 miles each. Each stage of 175 miles will consist of seven laps of a circuit of 25 miles and compulsory alightings must be made at the end of each seven laps.

A circuit of 25 miles in the vicinity of Bournemouth has been carefully surveyed from the air and has been reported on as satisfactory for the Race. The Race will be held on August Bank Holiday and will be completed in one day.

Full conditions and details of the course will be issued later.

### Schneider International Seaplane Race, 1927

THE Royal Aero Club announces that the Schneider International Seaplane Race will be held in Italy in 1927, between September 1 and November 15. The exact date and place will be announced later. British entries must be made to the Royal Aero Club, 3, Clifford Street, London, W.1, not later than Wednesday, February 23, 1927. Entries must be accompanied by the entry fee £5, and deposit of £50. The deposit of £50 is returnable in respect of each machine present at the contest.

The Committee of the Royal Aero Club will select the three competitors to represent the British Empire and reserves to itself the right to hold eliminating tests.

The general conditions for 1927 are as follows:—

**Navigability and Watertightness Test.**—This eliminating test will begin with a navigability test and be followed by a watertightness test. These two tests are intended to establish the seaworthiness of the machine.

Each machine must complete a course of from 5 to 10 nautical miles over the sea, or in a creek, gulf, estuary or bay, as decided by the Commissaires Sportifs.

For this test the competitor must taxi over the starting line, then rise and continue the course, during which he must taxi the machine over two distances of half a nautical mile at a minimum speed of 12 knots, the limits of each of these distances being indicated by two buoys.

The remainder of the course will be covered in flight. The competitor must, however, alight again before completing the course and taxi over the finishing line. The Commissaires Sportifs may allow a competitor who has been unsuccessful in this test to make a second and final attempt.

After having taxied over the finishing line, the machine must be moored immediately to a buoy allotted beforehand, where it must remain afloat for six hours without anyone on board. Any machine leaving its mooring during this period will be disqualified.

No repairs will be allowed during the navigability and watertightness tests. Except for changing the propeller, which is allowed, the machine must not undergo any modification between the above tests and the speed contest. It will be stamped to ensure this.

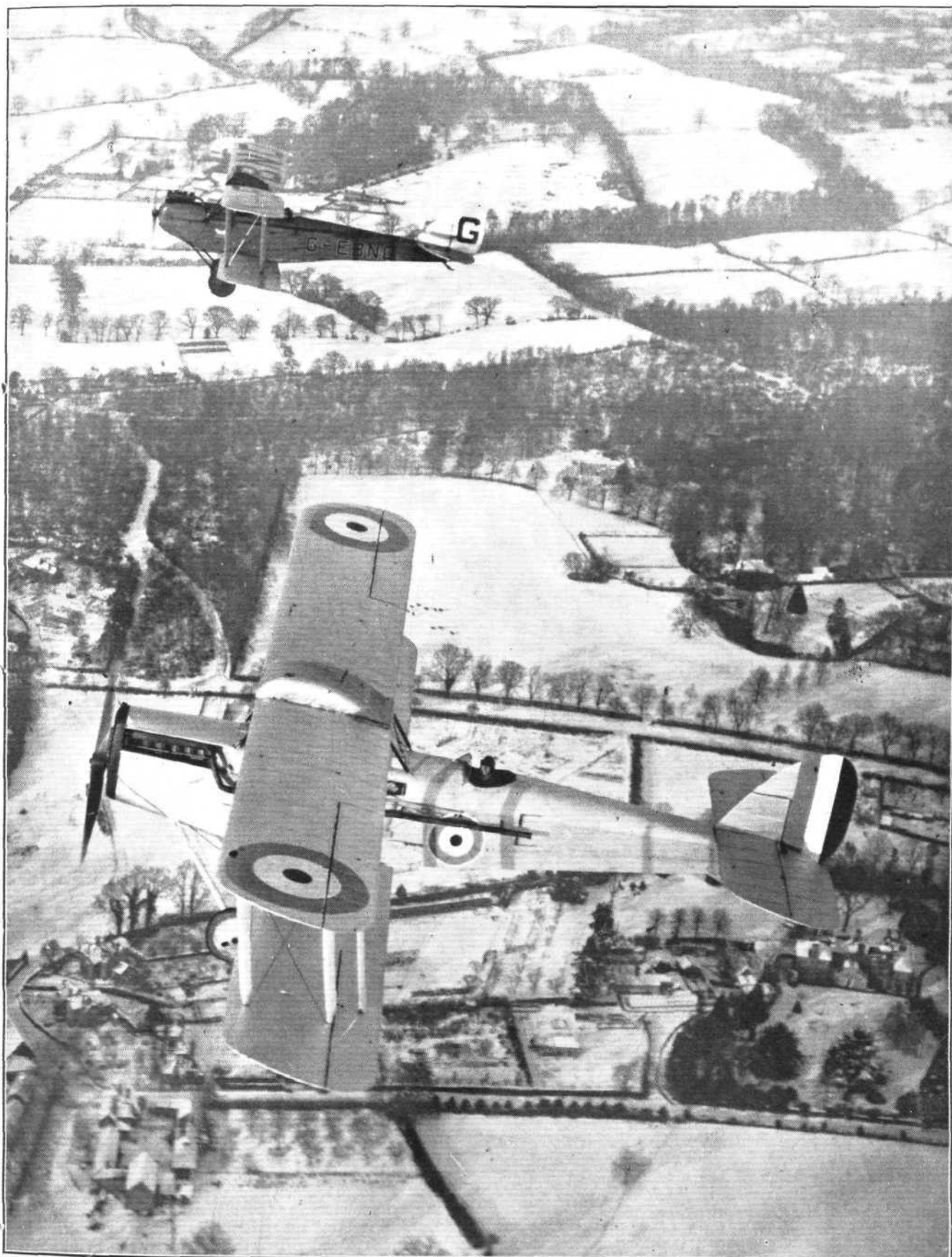
**Speed Contest.**—The Race will be contested over a distance of 350 kilometres (188.86 nautical miles). The closed circuit will be about 50 kilometres (26.98 nautical miles). Competitors may be started all together or at intervals as shall be decided by the Commissaires Sportifs.

If competitors are started at intervals the order of starting shall be drawn by lot, and the hour of starting fixed by the Commissaires Sportifs. The start may be made either by taxiing over the starting line or by passing over it in flight. The finishing line must be crossed in flight.

The course may, if necessary, be taken over the coast, the controls being on land, care being taken to avoid all arrangements likely to impede competitors. Alightings and repairs are allowed during the contest.

In the event of unfavourable weather, the Commissaires Sportifs may postpone the contest as often as they think fit.

## "A-WING" OVER SNOW-CLAD EDGWARE



[“FLIGHT” Photograph]

AD.H. 50 FOR NEW ZEALAND : This machine has been ordered for survey work, the cabin being specially arranged for the taking of photographs. Our picture shows the 50 on a test flight, piloted by Captain Broad, shortly before its despatch to the Antipodes. In the background is seen a “Moth,” piloted by Capt. Geoffrey de Havilland himself.



# A NEW KOOLHOVEN LIGHT 'PLANE

## The "Pusher" Up-to-Date

It may be recollected that at the Elta exhibition at Amsterdam in 1919 was exhibited a very small monoplane, the Bat "Crow," designed by Mr. Frederick Koolhoven, who was at that time designer to the B.A.T. Company. The "Crow" was never much of a success, but it undoubtedly had in it the germ of something really worth developing. It would be a stretch of the imagination to claim that the Koolhoven machine illustrated herewith is a direct descendant of the "Crow," but just as the latter was, so to speak, the modernised version of the Santos Dumont "Demoiselle," so the latest Koolhoven light 'plane can be said to be the modernised version of the "pusher."

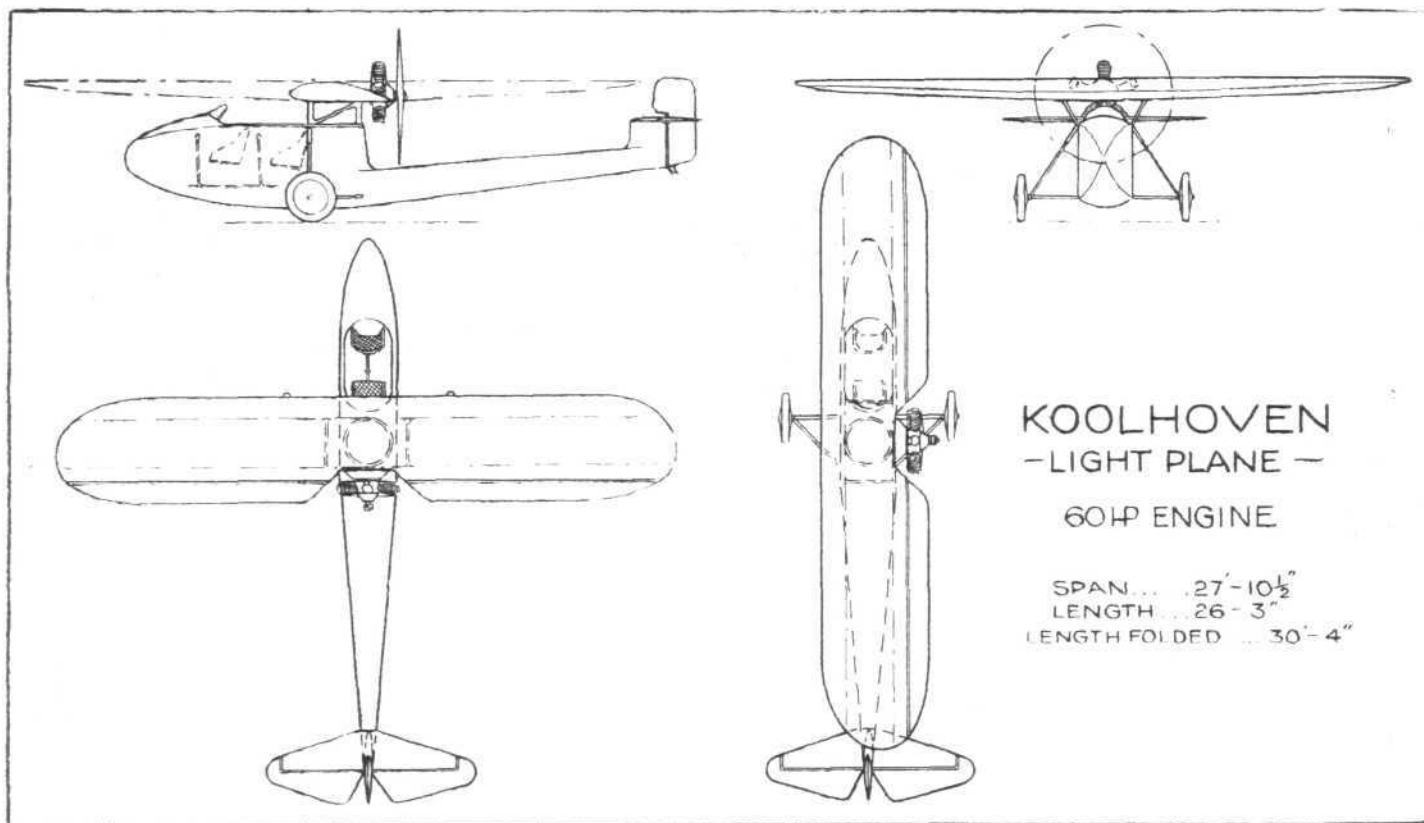
Mr. Frederick Koolhoven was never the man to be content to follow orthodox lines merely to save himself trouble, and he never minded doing a bit of hard thinking, as some of his very original aeroplanes testify. In this latest machine of his he has once more struck out along original lines, and the result is certainly interesting. As the general arrangement drawings show, the new Koolhoven two-seater touring

tractor, the necessity for the turntable was not, however present.)

At present it is not known whether the position of the engine is such that direct gravity feed can be employed if the tank is placed in the wing. Normally sufficient head should be available, although possibly difficulty might arise when opening up the engine after a long steep glide. However that is mainly a question of carburettor position on the particular engine used.

The undercarriage of the Koolhoven light 'plane is of the oleo type, and as the stroke provided is long (about 1 foot), the machine should be able to withstand rough handling. With the rather long nose of the fuselage, and its very low position over the ground, it should be next to impossible to turn the machine over, especially as the wheel track is wide.

That this type of machine has a number of advantages cannot be denied. As is usually the case, these are accompanied by a few disadvantages. For instance, the placing of the engine results in a high centre of thrust, but with



The new Koolhoven Two-seater Light 'Plane. General Arrangement Drawings.

and sporting machine is a parasol cantilever monoplane fitted with a "pusher" engine. The usual open tail booms associated with the pre-war and war-time "pusher" have given place to a thinned-down fuselage carrying the tail surfaces and tail skid, and the engine (a five-cylinder radial, is shown, but presumably any other suitable radial can be fitted if desired), is supported on the wing structure and placed aft of the wing. The result is a machine giving an exceptionally good view to both occupants, as well as getting them out of the slipstream. The noise from the engine also is far less troublesome in a pusher, while there is no oil or exhaust gases blown back on the pilot and passenger.

A very interesting feature of the machine is the manner in which the monoplane wing is "folded." The entire wing, complete with engine mounting, engine and propeller, is supported on struts from a form of turntable situated on top of the fuselage and taking its bearing on or in the fuselage. A simple locking arrangement is provided whereby the wing can be locked either in the "natural" position or in the "folded." The operation is carried out in a couple of minutes.

(It may be recollected that in a series of articles by "Marco Polo," published in *FLIGHT* in March, 1920, entitled "The Case for the Cantilever Wing," a sketch design was given—March 18, p. 313—of a parasol monoplane in which the wing was "folded" in this manner. As the machine was a

the relatively small forces in question this is probably not a serious matter. Flying-boats are handled successfully with much greater forces involved. Objection number two is that a broken propeller might damage the fuselage and so imperil the support of the tail. A broken propeller is, however, a rare occurrence nowadays. Objection number three: that with the rear portion of the fuselage of such small cross-sectional area, a somewhat heavier structure may be required to give rigidity than would otherwise be necessary. Again this probably does not amount to a great deal. Altogether the experiment seems to be one very well worth trying.

It is interesting to learn that Mr. Clifford Harmon, President of the International League of Aviators, has ordered one of these machines for use in visiting sections of the League all over Europe.

The main data are: Length o.a. with wing "folded," 9.25 m. (30.3 ft.); length o.a., with wing spread, 8 m. (26.3 ft.); wing span, 8.5 m. (27.9 ft.); weight of machine empty, 600 lbs.; weight loaded with two occupants and 5 hrs.' fuel, 1,180 lbs.; cruising speed, 80 m.p.h.; landing speed, 33 m.p.h. The latter figure seems somewhat doubtful.

Owing to the small size of this machine, Mr. Koolhoven is selling with it a packing case slightly better finished than the ordinary, which can be used as a garage or hangar, as well, so that the owner can "settle" in a convenient field and can change his base very easily when required.

# THE HUFF-DALAND "PEGASUS"

## A Successful American High-Powered Single-Engine Bomber

ALTHOUGH the Huff-Daland "Pegasus" made its first public appearance at the National Air Races held at Mitchell Field, New York, in 1925, it was only a few months ago that any information regarding this machine was allowed to be published. At the races in question the "Pegasus" won the Air Transport Race.

The "Pegasus" or XLB-1 is a tractor fuselage biplane light bomber designed by C. T. Porter, chief engineer of Huff, Daland Airplanes, Inc., of New York, and is one of

The structure of the fuselage is of the Warren type, there being four main longerons, tapering to a vertical knife-edge at the rear; the maximum depth is at the trailing edges of the main planes, fore and aft of which the fuselage tapers slightly. The covering of the fuselage is fabric, except for the engine section.

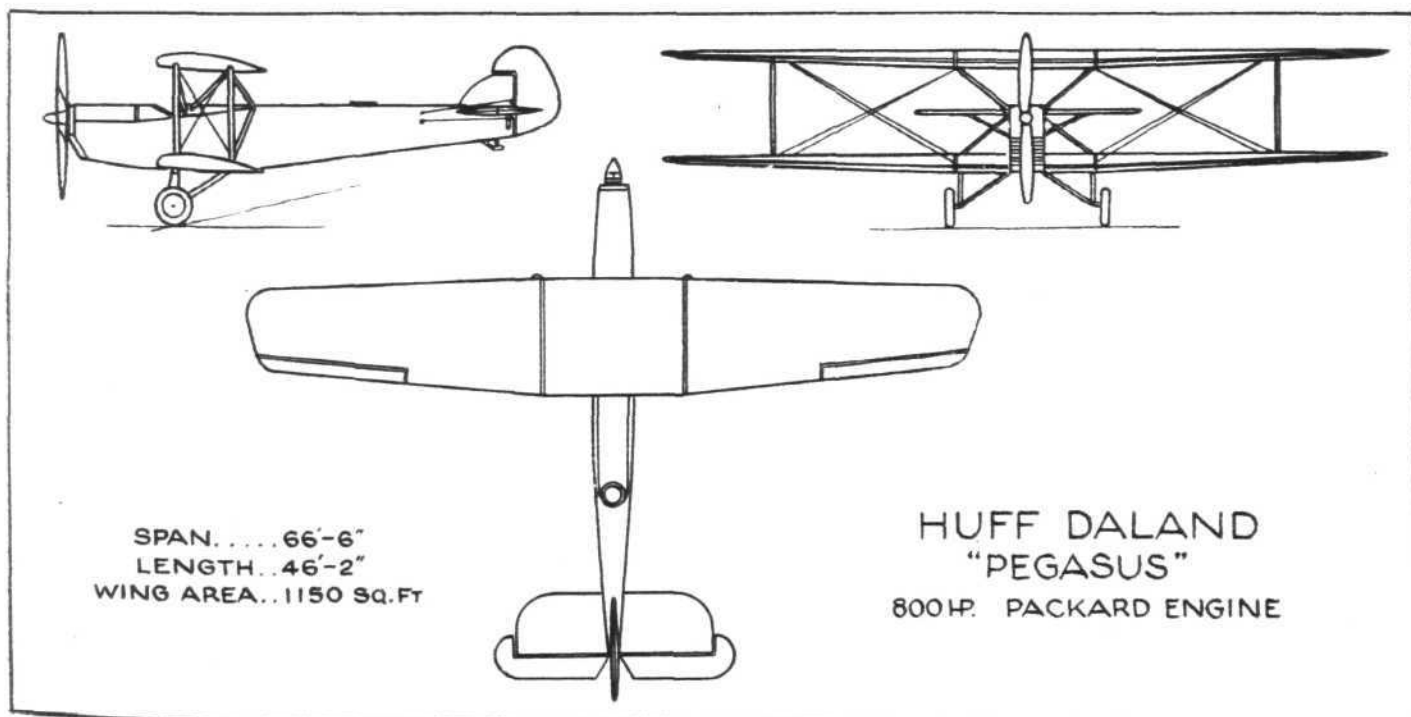
The undercarriage is of the split-axle—or, to be exact, non-axle—type, consisting of two wheels with a very wide track (14 ft.), each hinged to the fuselage by an "axle-strut"



THE HUFF-DALAND XLB-1 "PEGASUS" BOMBER: Three-quarter front view of a successful American machine of metal construction. Note the wide wheel track.

the largest single-engined machines of its class; fitted with the Packard 2A-2500 800 h.p. water-cooled engine, it has remarkable speed and load-carrying qualities. As with other types of Huff-Daland aeroplanes, such as the "Petrel," "Pelican," "Panther," etc., the "Pegasus" has an all-metal fuselage of welded steel tube, constructed in one unit from the nose to the tail, in which the employment of wire bracing has been entirely eliminated. The mounting for the 800 h.p. Packard engine is readily detachable, together with the engine, by the removal of only four bolts, and an interchange of engines in service is thus rendered easily possible.

extending from the stub axles up to the fuselage, and a "radius-strut" running back from the stub-axles to the fuselage. This undercarriage is also particularly interesting on account of the shock absorbing principle employed. The use of rubber is eliminated in both the undercarriage and the tail skid in favour of units of three oil and spring oleo shock-absorbing cylinders for each wheel, and a single cylinder for the tail skid. The wheel absorber units are mounted above and alongside each wheel, being attached to the lower plane centre section (front spar). The tail skid is steerable.



THE HUFF-DALAND "PEGASUS" BOMBER: Plan, side and front elevations to scale.



**THE HUFF-DALAND XLB-1 "PEGASUS" BOMBER: Side view.** This machine is fitted with a Packard 2A-2,500, 800 h.p. engine.

The main planes, which are of standard Huff-Daland hollow box spar construction, are of equal span and chord, top and bottom, the wing section, U.S.A. 45 modified, being fairly thick at the centre and tapering towards the tips. The wing cellule is of the single-bay type, the top and bottom planes being made up of three panels—a two outer and one centre. The lower centre panel is divided by the fuselage, into which it is built. The outer panels, which are set at a dihedral angle of  $2^{\circ}$ , taper in chord from 10 ft. 6 ins. at the root to 7 ft. at the tip.

The upper centre panel is supported above the fuselage by two sets of N struts, whilst the lower panel is braced by two struts each side, all struts being attached to the top longerons of the fuselage. The fuel tanks are located in the top centre panel, between the spars, so that the petrol feed is of the simplest gravity type. Ailerons are fitted to both top and bottom planes, and are unbalanced, while the divided elevators and the rudder are balanced.

As previously stated, the engine fitted is the Packard 2A-2500, 800 h.p. geared type, driving a 16-ft. airscrew; a tunnel type radiator is fitted.

The "Pegasus" carries a service crew of three—pilot, located in line with the leading edges of the planes; bomber, located amidships; and gunner, located some way back of the main planes. The armament includes five machine guns, in addition to the bombs. It is stated that with larger wheels fitted, a 4,000-lb. bomb can be carried.

Twelve of these machines were ordered by the U.S. Army Air Service, in addition to one heavy bomber of another type, known as the "Cyclops." The latter is also a single engined machine of metal construction, but no details of are available other than it weighs approximately 17,000 lbs. will carry a useful load of 9,000 lbs., is equipped with six machine guns, one 4,000 lb. or two 2,000 lb. or four 1,000 lb. bombs.

The principal characteristics of the "Pegasus," together with certain performance details reported by the Engineering Division, are as follows:—

Span .. .. .	66 ft. 6 in.
Overall length .. .. .	46 ft. 2 in.
Overall height .. .. .	15 ft. 4 in.
Chord .. .. .	10 ft. 6 in.—7 ft.
Gap .. .. .	9 ft. 4 in.
Area of main planes .. .. .	1,150 sq. ft.
Angle of incidence .. .. .	$1\frac{1}{2}^{\circ}$
Dihedral angle .. .. .	$2^{\circ}$
Weight, empty .. .. .	5,323 lb.
Disposable load .. .. .	4,817 lb.
Gross weight .. .. .	10,140 lb.
Weight per sq. ft. .. .. .	8.82 lb.
Weight per h.p. .. .. .	12.63 lb.
Speed range (loaded) .. .. .	55—130 m.p.h.
Climb to 1,000 ft. (loaded) .. .. .	24 mins.
Service ceiling (loaded) .. .. .	16,000 ft.

# The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

## JOINT STANDING COMMITTEE OF R.Ae.C. AND S.B.A.C.

A MEETING of the Joint Standing Committee of R.Ae.C. and S.B.A.C. was held on Wednesday, January 19, 1927, when there were present:—

**Royal Aero Club.**—Lord Edward A. Grosvenor (in the chair), Capt. C. B. Wilson.

**Society of British Aircraft Constructors.**—Capt. H. E. P. D. Acland, Comdr. James Bird, H. T. Vane.

In attendance:—*Royal Aero Club*—Lieut.-Col. W. A. Bristow, Lieut.-Col. M. O. Darby.

*Society of British Aircraft Constructors*—H. Burroughes, D. Nicolson, T. O. M. Sopwith.

H. E. Perrin, Secretary R.Ae.C.; J. T. Brown, Assistant Secretary S.B.A.C.

**Schneider Cup.**—It was decided to support a race being

held this year provided a date not earlier than September was fixed.

**King's Cup.**—The proposals submitted by the Club were approved. On behalf of the S.B.A.C., it was pointed out that they preferred a formula for handicapping. It was decided that a joint meeting of representatives of the S.B.A.C. and R.Ae.C. should be held with a view to arriving at a formula for this year's race.

**Aerial Derby.**—In view of the report of the R.Ae.C. that Bournemouth was not considered suitable for the Aerial Derby, it was decided to survey the Cranwell district and Salisbury Plain for a suitable course.

Offices: THE ROYAL AERO CLUB,

3, CLIFFORD STREET, LONDON, W. 1.

H. E. PERRIN, Secretary.





## AIRISMS FROM THE FOUR WINDS

### Czecho-German Air Services

AN important Air Convention has been signed between Germany and Czechoslovakia which now grants a general freedom of movement for aircraft over the frontiers of each country. Previously special authority had to be obtained for each flight over the borders. This change also provides for the addition of four regular services. The most important will be the Berlin-Vienna via Dresden and Prague, operated by the German Lufthansa and Austrian Luftvks. Aktien-Ges., and commencing March 7 next. Departure from Berlin will be 9.50 a.m., and arrival at Vienna at 3.20 p.m., with two stops *en route*. A summer service to be introduced on April 18 will link this line with Copenhagen and Malmö. A week after this another service will connect Gleiwitz, Brunn, Vienna, Prague and Chemnitz, while after Easter a route to Breslau, Prague, Munich, with an extension to Geneva, will be established. Both German and Czechoslovak machines will be used on these lines, running to a common time-table. The fare will be slightly higher than first-class railway fare, including sleepers. The importance of Prague as an international air junction will be emphasised at the International Aviation Exhibition, which will be held there from June 4 to 16 this summer. One of the events will be an international balloon race.

### U.S. Army 'Planes Visit Canada

CONTINUING their flight from Ottawa, the 12 U.S. Army aeroplanes from Selfridge Field, Mich., reached Montreal on January 26 through a blinding snowstorm which twice forced them to land. They could not distinguish each other, nor make out the tree-tops until 15 ft. above them. They landed successfully on the ice on the Ottawa River on the Montreal side of Hawkesbury, Ontario, about 32 miles from the local aerodrome. Their altitude during the whole flight was 100 ft. until Bois Franc, near Montreal, was reached, when they climbed to 1,000 ft. in brilliant sunshine. Their landing was effected within 12 minutes of their being sighted.

### Air Minister's Indian Tour Completed

CONTINUING his tour of inspection in India, Sir Samuel Hoare cruised over the Peshawar Valley and saw the Malakand on January 20. On January 21 he visited the Khyber Pass by road and proceeded the next day by air to Miramshah, and thence to Quetta. No. 3 Wing and the Indian Army Staff College were inspected the following day and Multan on January 24. On January 25 he reached Bikaner. At Multan Sir Samuel Hoare was escorted across the eighty miles of desert by four Service machines. This concludes Sir Samuel Hoare's tour of inspection in India, and the following is a brief record of his progress. Left Delhi January 17, stopped at Ambala and reached Lahore. January 19, Peshawar, Kohat, and Kurram. January 20, Risalpur. January 21, Khyber Pass (by road). January 22, Miramshah and Quetta. January 24, Multan, and January 25, Bikaner; return Delhi January 29. Accompanied by Lady Maud Hoare, Sir Samuel flew from Delhi to Karachi in the D.H. "Hercules" air liner on February 1. They are due to leave Karachi today (Thursday) for Jask, *en route* for Cairo, whence the journey home will be completed by boat and train.

### Trans-Australian Flight

A BRISTOL aeroplane left Perth, Western Australia, on January 28, piloted by Messrs. Kingsford Smith and Keith Anderson, with the object of reaching Sydney, a distance of 2,300 miles, in two days. Persistent headwinds, however, prevented them, and they arrived at Sydney on January 31. (The record is held by Lieut. Briggs with a flying time of 21½ hours for the distance.) They also carried a passenger, Mrs. Marshall, who was the first woman to fly across the Australian Continent.

### An Australia-Tasmania Air Service

NEGOTIATIONS are proceeding between the representatives of a flying company and the Commonwealth and Tasmanian Governments with a view to establishing an aeroplane passenger and mail service between Victoria and Tasmania. The company in question is Tasmanian Air Services, Ltd. ("Tas Ltd." will probably be the name given this company), the promoters of which include a number of well-known members of the flying world "down under." The route to

be followed will be that known as the Eastern Route, lying from Melbourne, via Wilson's Promontory, Hogan and Kent Isles, Flinders Isle, Baron and Clarke Isles, Cape Portland, and Low Head to Launceston—a distance of 293 miles. It is proposed to operate this service with modern 12-seater three-engined metal hull amphibian flying-boats. Every year 50,000 passengers pass between Australia and Tasmania, so that should the Government subsidy be forthcoming and the service get going, it would serve as a means of popularising Tasmania as a holiday resort for the Australians—quite apart from the advantages such a service offers from the business point of view.

### Toulouse-Buenos Aires Air Service

NEGOTIATIONS have been completed between the Argentine Government and the French Latécoère Air Transport Co. for the inauguration of a weekly air mail service across the South Atlantic from Europe to the Argentine. We have already referred in FLIGHT to the proposed organisation and route. Aircraft will take the mails from Toulouse to the Cape Verde Islands, then fast steamers will carry them on to the island of Fernando Noronha, off the coast of Brazil, where aircraft will again pick them up and convey them to Buenos Aires. The agreement provides for a time of seven and a half days for the whole journey at the present, to be gradually reduced to four days. The contract is for 10 years, and the first mails will be despatched on September 1.

### The Duke of York's Tour

THE American Air Service and Fleet gave a spectacular reception to the Duke and Duchess of York when the "Renown" entered the Panama Canal at dawn on January 25. The harbour lights at Colon were still twinkling in the faint light when suddenly the U.S. Battleship "Arkansas" loomed to starboard, and her guns boomed a thunderous salute as the White Ensign was broken at her masthead. Then, just as the sun was rising, twenty-five U.S. aeroplanes, including large bombers and small scouts, appeared over the masts of the "Renown" and escorted her with amazing evolutions to the Gatun Lock, sometimes flying level with the decks and dipping a respectful salute to the Royal Standard. They came from the U.S. aerodrome at Francefield.

### New U.S. Naval Air Attache

LIEUT.-COMMANDER R. D. KIRKPATRICK, U.S.N., has been appointed Assistant Naval Attache for Aviation to the American Embassy in London, in succession to Commander R. A. Burg.

### Basle Airport Reorganised

FOR the reopening of the Imperial Airways line, London-Paris-Basle-Zurich, a new air port complete with Customs houses, post office, restaurant and night lighting arrangements, is approaching readiness at Basle. The old temporary aerodrome was too small for the big 14-seater Handley Pages, used on this line, and a further four acres have been annexed to accommodate the requirements. Basle will be the air terminus where passengers from London will meet the night train to Italy, and the flight will take six hours and include a stop of 30 mins. at Paris.

### Nobile to Make Atlantic Airship Flight

THE Italian Premier has ordered General Nobile, who piloted the "Norge" airship across the North Pole, to prepare to fly the South Atlantic from Rome to Buenos Aires in the large, semi-rigid airship, now in the course of construction under the supervision of General Nobile at the Government works. The gas capacity of this new vessel is 1,765,500 cubic ft., and it is expected to be ready in 1928, probably coinciding with the completion of the two British ships of 5,000,000 cubic feet.

### D'Oisy Awarded Harmon Trophy

THE Clifford Harmon trophy, consisting of 10,000 frs. and a gold cup, for the finest flying exploit in 1926, has been awarded to Capt. Pelletier d'Oisy.

### A Greeko-Bulgarian Incident

A GREEK military pilot landed on Bulgarian territory owing to fog on January 22, and was detained by the Bulgarian authorities for inquiries. Later the explanations offered were accepted, and the pilot left for Salonika on January 27.

## AUSTRALIAN AERO CLUBS MAKE PROGRESS

THE light 'plane club movement is making strong headway in Australia, as may be gathered from the following brief notes on the activities of the several clubs—branches of the Australian Aero Club—already formed in the various sections of the Dominion. For most of our information we are indebted to our Australian contemporary, *Aircraft*.

**South Australian Section.**—This section was originally formed at Adelaide, on September 4, 1919, by Capt. R. O. C. Mathews (A.F.C.), but in 1920 it fell into a "trance," in which condition it remained until September last year, when Lieut. G. W. Lewis (late A.F.C.) was responsible for its revival. After a successful general meeting on September 22, work was commenced in reorganising the Club and enrolling members. By October the membership was 150, and more joined up subsequently. The committee completed the draft of its Memorandum and Articles of Association, and other necessary legal formalities, applied to the Government for the loan of machines, &c., and it was hoped that before long the Club would get going in earnest.

**Queensland Section.**—The Queensland Section was formed shortly after the South Australian Section, i.e., on September 26, 1919. Its founder was Mr. H. Bowden Fletcher, D.F.C., and it also gradually faded into oblivion. Just recently, however, efforts have been made to reconstruct this section. The new organisation, it appears, will differ from that of the other clubs, in that the flying equipment (D.H. "Moths") will be purchased direct from the de Havilland Co. by the Queensland and Northern Territory Aerial Services, Ltd., instead of being hired from the Government.

Qantas is to establish flying schools in Brisbane and Longreach, under the aegis of the Club, and will also provide instructors. It is understood that the company will receive a Government subsidy of £50 in respect of each successful member who obtains his "ticket," instead of £20 as in the case of Club Sections operating on borrowed equipment. Five "Moths" have been purchased: two will be stationed at Brisbane and two at Longreach—the fifth probably being held in reserve.

**New South Wales Section.**—This section has made great strides since it commenced active flying operations on August 2, 1926, and claims responsibility for the first Club-trained pilot to be "produced" in Australia. The N.S.W. Section was actually formed in 1919, and has managed to keep alive right through up to the present, in spite of many ups and downs. The past year, however, marked a great advance

in membership and financial strength, the membership during 1926 being almost trebled. In November last the total membership was 258, made up as follows:—Pilot members, 22 (including 9 pilots trained by the Club); Pupil members, 31; ordinary members, 205.

During the first three months of their active flying operations (up to November last) 960 flights have been accomplished, totalling 306½ hours. Nine pupils of this section have already been licensed in Class A by the Civil Aviation Branch, and five others were about ready to be launched by the end of the year. The 960 hours of flying was made up of 143 hrs. 15 mins. dual, 60 hrs. 30 mins. pupils' solo, and pilot members, 82 hrs. 15 mins.

The quality of the flying of the newly fledged pilots is uniformly good, and in every case they promise with experience to develop into sound and reliable pilots. The average dual instruction before first solo flying was 6 hrs. 51 mins., and the average total dual and solo flying before licence test were respectively 8 hrs. 40 mins. and 6 hrs. 45 mins. The Controller of Civil Aviation, Col. H. C. Brinsmead, flew to Sydney to supervise the licence tests and, on his return to Melbourne, sent the following letter to the Club:—

"With reference to the pupils who were recently presented by your Club for private pilots' licences, I have to advise that the report submitted by the examining officer is exceedingly satisfactory and indicates that the flying instruction has been thoroughly and conscientiously carried out. It is very gratifying to find that this state of affairs exists in the early stages of your operations, and the foundations laid should do much to ensure not only continuance of success, but also an increase in the activities of your organisation."

The Club's equipment consists of D.H. "Moths," and the aerodrome is located at Mascot, just outside Sydney.

**Victoria Section.**—Flying operations in this section commenced at Essendon Aerodrome on August 20, 1926, and from this date until the end of October last a total of 140 hrs. flying (105 hrs. by pupils under Flight-Lieut. Mustard and 35 hrs. by pilot members) was carried out on Club "Moths." During this period two pupils obtained their A licences and five others were due to graduate.

**Geelong Sub-Section.**—This is a recently-formed section, and at the end of last year was awaiting delivery of its flying equipment from the Government, the work meanwhile being concentrated on the building of its hangar, preparing the aerodrome, and organising a series of lectures.

### Aero Golfing Society

THE following fixtures for the Aero Golfing Society have been made:—

- Feb. 28. Team match. Ae.G.S. v. Stage Society, at Moor Park, Rickmansworth.
- Mar. 17. Winter meeting at Sunningdale Golf Club for Ae.G.S. Challenge Cup. Presented by Sir Samuel Instone.
- April 19. Team match. Ae.G.S. v. Moor Park Club, at Moor Park.
- May 10. Team match. Ae.G.S. v. Music Industries Golfing Society, at Berkhamsted.
- May 19. Spring meeting, at Addington Golf Club for Ae.G.S. Challenge Cup. Presented by FLIGHT.
- Oct. 20. Autumn meeting, at Walton Heath, for Ae.G.S. Challenge Cup. Presented by Cellon (Richmond), Ltd.

### The "Mayfly" Does

It will be recollected that the Halton Aero Club had entered for the light 'plane competition at Lympne last year a small biplane designed and built by members of the club, and that the machine could not be got ready in time to take part. The "Mayfly," as the machine has been nicknamed by the apprentices, has now been finished, and on January 31 it made a very successful test flight, piloted by Flight-Lieut. Trench, who expressed complete satisfaction with the machine. The flight, by the way, took place at Bicester aerodrome, although by this time the machine will probably have been flown to Halton. Well done, Halton, and congratulations on success of H.A.C.I.

### Some Technical Papers

ON January 20 Mr. H. Galuert read a paper on "The Theory of the Autogyro" before the R.Ae.S. He arrived at the general conclusion that the "gyroplane," as he called it, would always be slightly inferior to the aeroplane for top

speed, but admitted such of its advantages as low landing speed and the absence of a sudden and violent stall.

"The Supercharging of Aircraft and Motor-vehicle Engines" was the title of a paper read, on February 1, by Mr. Roy Fedden before a joint meeting of the R.Ae.S. and the Institute of Automobile Engineers. Mr. Fedden thought that in the course of the next few years practically all classes of military aircraft engines would be supercharged. On commercial aircraft he thought the supercharger would not be in use continuously, but would be employed for mild ground boosting to obtain maximum power for taking off, the engine then being used as a naturally aspirated one at some economical position on the throttle curve.

On January 25 Capt. F. S. Barnwell read a paper on "Some Notes on the Design of Airscrews" before the Inst.Ae.E. Owing to the technical nature of these three papers it has been decided to defer publication of summaries until the next number of THE AIRCRAFT ENGINEER, which will appear on February 24.

### Royal Air Force Flying Accidents

THE Air Ministry regrets to announce that as the result of an accident off the coast of Portugal to a Flycatcher machine of No. 405 Flight, on January 27, Flying Officer Arthur Sattin, the pilot and sole occupant of the aircraft, was drowned as the result of an unsuccessful attempt to land on the deck of the aircraft carrier H.M.S. *Furious*.

As the result of an accident at Norbury, London, to a Siskin of No. 41 Squadron, Northolt, on January 28, Flight-Lieut. William Geoffrey Meggitt, M.C., the pilot and sole occupant of the aircraft, was killed.

As the result of an accident off the south-west coast of Spain to a Blackburn Dart of No. 462 Flight, H.M.S. *Furious*, on January 28, Gordon Thursby Campbell, Lieutenant, Royal Navy, Flying Officer Royal Air Force, the pilot and sole occupant of the aircraft, was drowned.



# "AERONAUTICAL ENGINEERING"

## First Inst.Ac.E. House Dinner a Great Success

THE Institution of Aeronautical Engineers held its first House Dinner at the Engineers' Club on January 28, and thereby established something of a precedent, not only by inaugurating what is hoped will be a long series of similar functions, but by attaining in the informal discussion following the dinner a standard to which the Institution will have to attempt to live up in the future.

The Chair was to have been taken by Mr. Frederick R. Simms, but illness prevented him from being present, and his place was taken at short notice by Mr. M. L. Bramson. Some thirty guests and members sat down to dinner, and after honouring the loyal toast, Mr. Bramson explained that he was glad to be able to announce that he had succeeded in getting Major Hemming, at practically no notice, to open the discussion.

Major H. Hemming, Managing Director of the Aircraft Operating Co., pointed out that he was not a technical man, and thus he could not well undertake to speak to the company on aeronautical engineering. The only subject upon which he could speak without having to prepare himself specially for it, was one particular branch of aeronautical engineering, viz., aerial survey. Major Hemming stated that air survey offered a number of problems to the aeronautical engineer and he thought these problems could be divided into three heads: (1) the aircraft, (2) instruments, (3) personnel. As regards the machines, aerial survey had hitherto been somewhat handicapped by the necessity for using more or less makeshift material. The ordinary type of aeroplane was not suitable and he thought it might assist aeronautical engineers if he were to state briefly some of the main points which had to be kept in mind in designing a machine specially for air survey. To begin with, the tractor type of aeroplane was unsuitable for survey work, owing to the obstruction to forward view which an engine in the nose of the fuselage produced. What they wanted was the pusher view. He did not necessarily suggest that the machine should be a pusher, but thought the three-engined machine was probably ruled out, at any rate the type in which the centre engine was in the nose of the fuselage. This brought them to the twin-engined machine, but it was essential that this should be so designed as to make the possibility of forced landings very remote, as usually the country over which aerial survey was carried out was of such a nature as to practically preclude any possibility of making a forced landing with safety. With the present air survey equipment it was necessary that machines be able to fly at least 200 miles from their base and return to it without landing. In air survey the question of cost was of relatively smaller importance than that of reliability, and performance should be good. Thus a twin-engined machine must be able not only to fly level but to climb on one engine.

On the subject of instruments, Major Hemming stated that what was badly needed was an instrument which would enable the pilot to keep the machine at an exact height. Probably also an instrument that would indicate the position of the camera in relation to the earth would be of great help.

As regards personnel, Major Hemming thought that in the future it would be satisfactory for the pilot to do everything, since with automatic cameras, etc., there was really not very much for a separate observer to do. That meant that the pilot must become a ground surveyor. Major Hemming spoke in very complimentary terms of the pilots on the London-Paris air route. These pilots had an excellent training, and would make good survey pilots. Major Hemming also made the interesting statement that the air survey in Rhodesia which his company was just starting to make would cover an area of some 20,000 square miles. By ordinary ground survey methods it was estimated that a survey of this area would take ten years, whereas they hoped to complete their air survey in six months.

The Chairman thought that sky-writing pilots had to attain much the same accuracy, as that required in air survey work, and in saying so he was not hinting to Major Hemming that he might be coming to him for a job (laughter), although it was quite possible that that might come to pass.

Capt. Tymms, after complaining that he had come to the dinner after obtaining a definite promise that he would not be called upon to speak, proceeded to elaborate Major Hemming's specification for an air survey machine. He agreed that this should be a twin-engined or three-engined type, and it should have an open front something like that of a flying-boat, and he thought some kind of sight was required to enable the pilot to keep on a leading mark. The photographer must have a view practically as good as that of the pilot in a forward and downward direction, and for taking oblique photographs it was essential that provision should be made for mounting the camera in such a manner that in its oblique position it could be traversed from 90 deg. port to 90 deg. starboard. In air survey over all kinds of different country it was not expedient for operating companies to have a number of different types of machines, so that a machine designed specially for air survey should be capable of being converted from land machine into seaplane and vice versa. It was very often the case that there was little space available in which to get off or alight and consequently the machine would have to have a good climb and be able to be put down in a very small area. For air survey work it was often desirable to fly at considerable height, and under present conditions air survey machines should have a ceiling of at least 16,000 feet. The load to be carried, inclusive of crew, must be about 1,000 lb., and, in addition, the machine should have sufficient fuel for five hours' flying. Good performance was essential, and he thought the cruising speed of the machine should not be less than 100 miles per hour.

Capt. F. L. Barnard, in referring to Major Hemming's statement that the London-Paris pilots might like to turn to air surveying when they got too old or too fed up flying over the same route, said that Major Hemming had also stated that they would be required to fly over very difficult country, and in all kinds of climate from tropical to arctic, thought that air survey was something of which pilots ought to steer clear. (Laughter.) As regards the difficulty of flying on a leading mark, he thought the gyro-rudder control was satisfactory and might solve that problem. As regards the engine in the nose, it did not necessarily follow that this obstructed the view of the pilot. For instance, in the Armstrong-Whitworth "Argosy," the pilot did not see the nose engine at all. Concerning an instrument for indicating the exact altitude, he had seen an electrical instrument which indicated very accurately the distance between the aeroplane and the ground, and he thought that might help the air survey people.

Major Brackley declared himself unable to discuss air survey problems, and said he would confine himself to the subject with which he was most familiar, viz., that of commercial flying. A good deal had been said about absence of forced landings and the machine to acquire the immunity therefrom. The twin-engined had been mentioned. Well, he thought definitely that no twin-engined machine yet flown would carry on on one engine. As regards the three-engined machine, it might or might not fly on two engines, and he thought the ideal commercial machine had not yet been evolved. Passengers still complained of noise, and he would ask aeronautical engineers to try their best to cut out the noise of present machines. The comfort of commercial aeroplanes also left much to be desired, and here, again, was a field for the aeronautical engineer.

Flight-Lieut. Reid pointed out that as regards the difficulty of flying on a leading mark, the gyro rudder control had been found to keep on a line within 3° or so, whereas flying on a compass course one got errors of 15°. In order to ascertain the position of the camera at the moment the picture was taken, he suggested as a possible solution of the problem that an azimuth gyro and a delicate tilt indicator might fairly easily be so arranged as to be photographed on to the plate in each exposure, thus indicating the position in relation to the earth. Concerning various mechanical aids to control of machines, he recalled that first they had the Aveline stabiliser. This was heavy because it was experimental, and actuated the controls, through relays, by the usual control cables. He thought that later on one would have hydraulic operation of the controls, with thin hydraulic pipe lines running from the instrument in the machine direct to the ailerons.

Capt. Savers stated that the subject under discussion was originally aeronautical engineering. That brought up the subject of general engineering, and before one could discuss that it would be necessary to define what constituted an engineer. There were many definitions, but the one he liked best was the American one, which said that an engineer could do for one dollar what any d— fool could do for two. Reference had been made to the disadvantage of having an engine in the nose. There was no reason why Major Hemming should not have a pusher type, a single-engined one at that, which would give the same performance as a tractor. It was only a question of how much Major Hemming was prepared to pay for it.

Capt. Lamplugh referred to the great importance of the training of personnel, and Capt. Boothby, R.N., expressed the view that at present British aeronautical engineers were not getting the practice which they ought to have. In Germany they were pushing on with commercial air lines and, consequently, German designers got a chance to get practice and experience. He thought in this country aeronautical engineers were rather being let down by the business people, in that sufficient money was not forthcoming to enable the engineers to get experience in producing commercial types. He thought that the airship could do all that was required in air survey work.

Wing-Commander Wynn said it seemed to him that there was a similarity of the difficulties of bomb dropping and photography. During the war it was found that it was not satisfactory for the pilot to have also to drop the bombs, since devoting his attention to the bombs sight meant that he could not look after the piloting, and unless the cameras used in air survey were automatic, it occurred to him that the difficulties might be similar. He would also like to know what was the largest size of machine that could be built, as he thought the future of British Empire air lines would rest with the big machine.

Major Hemming replied that the camera used nowadays was automatic, and explained in some detail how it was operated, the system used not calling for any great attention from the pilot, such as that required in dropping bombs. Major F. A. de V. Robertson said he had that morning been having a talk with Mr. Kemp on air surveying, and the talk turned to India, a country which they both knew. Well, now, India was a ghastly country for forced landings, and he thought that for air survey there it was absolutely essential that the aircraft used should be entirely immune from forced landings. Perhaps in the future some specialised type of airship might be used. He did not suggest that any hitherto built were suitable, but thought one might be produced in the future.

Capt. Tymms referred to the "Proximeter," an electrical instrument depending upon capacity effect between it and the earth, mentioned by Capt. Barnard. This instrument only worked accurately at low altitudes and, moreover, it did not necessarily register the distance between the machine and the ground, but the distance between the machine and the nearest good conductor on the ground, such as a pond or lake. He quite agreed with Capt. Barnard that the gyro-rudder control was satisfactory and enabled the pilot to fly in a straight line. It did not, however, give the location of that straight line. In air survey the pilot flew outwards along one straight line, turned round and came back along another straight line parallel with the first one, but displaced a certain distance laterally. The rudder control would not give this lateral displacement, which was very necessary in order to get the requisite amount of lateral overlap on the return flight. He said there was no getting away from the fact that a good pilot was enabled to do this by observing the ground and horizon, but to enable him to do his best the steep angle view to which he had referred was essential.

Major Hemming said that in order to be a commercial proposition, it was essential that air survey should be carried out on a large scale. The time was coming when they would be able to get large contracts, and when that came about he could assure Capt. Savers that they could afford to pay for expensive machines, provided these were reliable and had the necessary performance. For instance, they could afford a 1,000 h.p. machine to carry their survey load of 1,000 lbs. plus fuel for 5 hours. As regards the question of overlap and the difficulty of flying so as to get the requisite lateral overlap on the return flight, they were now using large overlaps, something in the order of 60 per cent. By doing that the necessary accuracy could be obtained in piecing the photographs together. He could not agree with Capt. Boothby and Major Robertson that the airship would be a suitable craft, as it would, he thought, be much too slow.

A very successful gathering then concluded by Mr. Hulbert thanking Major Hemming, Capt. Tymms and Capt. Lamplugh for their valuable contributions.

### Royal Air Force, India : Reunion Dinner

THE 4th Annual Reunion Dinner for officers who have served in the R.A.F. India Command will be held this year at the New Princes Restaurant, at 7.30 (for 8.0 p.m.), on Saturday March 12, 1927 (the day of the R.A.F. v. Army Rugby Football

match). The chair will be taken by Air Vice-Marshal Sir Philip Game, K.C.B., D.S.O. Evening dress and miniatures. Tickets, 16s. 6d. each (exclusive of wines) can be obtained on application to Flight-Lieut. J. G. Walser, M.C., R.A.F., Farnborough, not later than March 10.

# PERSONALS

## Married

JOHN D. ALLCROFT, R.A.F., son of Mrs. M. H. Allcroft and the late John D. Allcroft, was married, on January 19, at St. Columbia's Church, Pont Street, to AGNES GLOVER, youngest daughter of Mrs. Glover and the late Rev. James Glover, Sydney, N.S.W.

HAROLD AUBREY PEARSON, M.C., D.F.C., son of the Rev. and Mrs. E. Omar Pearson, Guernsey, was married on January 12, at Shanghai Cathedral, to IRENE, daughter of Mrs. TESTER, St. Leonards.

## To be Married

An engagement is announced between FLIGHT-LIEUT. C. A. BOUCHIER, D.F.C., R.A.F., Northolt, and Miss DOROTHY G. SHERWOOD, younger daughter of Mr. and Mrs. W. A. Sherwood, of Haslemere, Park Road, Hampton Hill, Middlesex.

The engagement is announced between ERIC L. BURSLEM, R.A.F., second son of Mr. and Mrs. A. T. Burslem, of Crawford Gardens, Cliftonville, and JOAN, only daughter of Col. and Mrs. GORDON, of Southwell Gardens, Kensington.

The engagement is announced between SQUADRON-LEADER WYNDHAM BROOKES FARRINGTON, D.S.O., R.A.F., only son of Mr. and Mrs. Frederick W. Farrington, of Widcombe, Sevenoaks, and VIOLET MURIEL NEVILLE, youngest daughter

of the Rev. Brent R. Neville, M.A., and Mrs. Neville, of Holbrook Rectory, Suffolk.

THE engagement is announced between MR. W. F. PARKINSON, R.A.F., only son of the late Mr. Arthur Parkinson and of Mrs. Parkinson, of Norwich, and ELSIE MAY, youngest daughter of Mr. and Mrs. J. R. SUTTON, of Bath, formerly of Clifton, Bristol.

THE engagement is announced between MR. NORMAN ANTHONY PLINT PRITCHETT, R.A.F., only son of the Rev. N. Pritchett, B.A., and Mrs. Pritchett, The Vicarage, Grain, and Miss SYLVIA HARRIS, only daughter of Mr. E. Cecil Harris, H.M. Coroner for Kent, and Mrs. Harris, of Trewin-nard, Sittingbourne.

A marriage has been arranged between Capt. A. S. C. REID, D.F.C., M.P., and MARY, younger daughter of COLONEL the RIGHT HON. WILFRID ASHLEY, M.P.

## Death

Flight-Lieut. CYRIL FRASER, D.S.C., R.A.F., who died on January 18, as the result of an aeroplane accident at Malta, aged 28, was the eldest son of Mr. and Mrs. EDWIN BREWERTON, of Sevenoaks. A memorial service was held at the Parish Church, Seal, near Sevenoaks, on Saturday, January 29, at 3 o'clock.

## LIGHT 'PLANE

### London Aeroplane Club

DURING the past week the weather conditions prevented any flying until late Sunday afternoon when we were able to get in two hours ten minutes, all of which was solo flying by the following members: G. H. Craig, S. O. Bradshaw, O. J. Tapper and N. Jones.

### The Hampshire Aeroplane Club

REPORT for week ending January 28:—Total flying time, 3 hrs. 55 mins.; instruction flying, 3 hrs. 5 mins.; solo flying, 3 hrs. 30 mins.; test flights, 20 mins.

The following members received instruction:—The Hon. H. R. Grosvenor, 50 mins.; Lieut. P. D. Heinemann, R.N., 30 mins.; Mrs. C. B. Fry, 30 mins.; Messrs. E. V. Somers, 25 mins.; R. S. Dickson, 15 mins.; W. P. Courtney, 15 mins.; E. P. Snowden, 10 mins.; and V. F. Nicholson, 10 mins.

The soloists were V. F. Nicholson, 15 mins.; A. M. Keeping, 10 mins.; and S. Fry, 5 mins.

No flying was possible on five days of the week owing to very high winds. In fact, a typhoon descended upon the aerodrome on Tuesday last, and although no damage resulted, it certainly left its impressions as reported in last week's issue of this journal.

A theory has been put forward by our meteorologist that these gales are the result of the very pronounced activities of members of the A.O.F.B., for it is known that the club numbers amongst its officials at least one Blaster and one Breeze Vertical.

Two of our pilot members sailed for China in the ss. *Kinfauns Castle* on Saturday; they were R. L. Preston and E. V. Preston, both officers in the Coldstream Guards, but at the moment of writing one is unable to remember their rank, so perhaps they will accept due apologies when they see this in print, as no doubt they will.

Although E. V. had had only three hours' instruction, he was a positively brilliant pupil, and we greatly regret that he was not able to complete his training before sailing.

We would like to offer our congratulations to Mr. Stephen Fry (who, by the way, is a son of the C. B.), upon having received his Royal Aero Club's aviator's certificate. He is the first member who has been trained *ab initio* at the Hampshire Aeroplane Club to receive this ticket, although he now shares with Mr. R. V. Perfect and Mr. O. E. Simmonds the honour of having passed the qualifying tests for the "A" licence.

### Lancashire Aero Club

REPORT for week ending January 29. Total flying time for the week, 6 hrs. 50 mins., made up as follows:—

Dual with Mr. Brown: Messrs. Anderson, 50 min.; Crosthwaite, 20 min.; Blagden, 20 min.; Davidson, 20 min.; Dickinson, 15 min.; Dobson, 10 min. Solo:—Messrs. Dobson, 40 min.; Twemlow, 40 min.; Crosthwaite, 40 min.; Hardy, 30 min.

Joy rides:—With Mr. Brown—Mr. Mathews, 45 min.; with Mr. Goodfellow—Miss Bodenham, 35 min.; with Mr. Scholes—Mr. Jordan, 15 min. Test flights, 30 min.

Sunday the 23rd, was the only respectable flying day during the week and that was unfortunately curtailed by the entanglement between the two serviceable Moths, as reported last week. The remainder of the period was apparently affected by the formation of a Lancashire Aero Club branch of the A.O.F.B. At any rate Tornados, Typhoons and Blast(er)s were very much in evidence.

It appears to us that the Club is getting seriously left behind by its rivals. None of our members belong to the nobility or landed gentry or own their own aerodromes or aeroplanes or anything like that. (Most of them are hard at work trying to pay the next instalment on the second-hand Cowley!) None of our members feel as safe in the air after 2½ hrs. dual with Mr. Brown as they do on their own Auto-wheels (though, as a matter of fact they are, if not more so!) None of our members fly home to fetch their cameras. (They're not allowed to in case the bailiff might seize the machine as soon as it landed!) Finally, none of our members treat each other to thrilling displays of formation flying! It is true that Mr. Leeming often persuades people to fly near enough for him to be able to "shoot" them with his Baby Pathé, but the only thrill about the performance is as to whether Leeming will fall out or not. It is

## CLUB DOINGS

also true that Mr. Goodfellow frequently brushes his wing-tips against other people's in a friendly way, but this is not looked upon as a treat, only as a bad and regrettable habit contracted during a mis-spent youth. Altogether the Club is obviously in a bad way and one commends the matter to the immediate attention of the propaganda sub-committee (if any).

### The Midland Aero Club, Ltd.

REPORT for week ending January 29.—The total flying time was 6 hrs. 50 mins.

The following members were given dual instruction by Flying Officer Glover:—C. Fellowes, F. Coxhill, S. H. Smith, G. Aldridge.

The following "A" pilots made solo flights:—R. L. Jackson, E. J. Brighton, H. J. Willis, W. Swann.

Passengers with Mr. Brighton:—L. V. Mann, S. H. Smith.

Gales restricted flying during the latter part of the week. A few words of thanks are due to Flying Officer Glover for having so efficiently carried on the instructional work during Captain McDonough's illness. Flight Officer Glover carries with him the best wishes of those who have had the pleasure of meeting him at the Midland Aero Club.

### The Newcastle upon Tyne Aero Club

FLYING report for week ending January 30.—Total time for the week, 14 hrs. 30 mins. 6 hrs. 15 mins. on "LX" and 8 hrs. 15 mins. on "LY." Dual, 3 hrs. 30 mins.; solo (training), 1 hr. 40 mins.; "A" pilots, 7 hrs. 50 mins.; joy rides with Mr. Parkinson, 1 hr. 30 mins.

The gale which has blown down new buildings, uprooted trees, etc., has also interfered with flying on all but Sunday, though Mr. Hannary braved it for 15 mins. on Monday, when Mr. Parkinson flew with a passenger also for 15 mins. The wind abated slightly on Tuesday evening and allowed another two hours flying, but after that it was difficult to reach the aerodrome by road until Sunday, when a good turn up of members enabled a good day's flying to be recorded.

The petrol store "took off" on Thursday and landed about 15 yards away from its foundations. Of course, pumps are now used by the Club so no harm resulted.

The following members flew under instruction with Mr. Parkinson:—Messrs. Wardill, Turnbull, Bainbridge, Miesegae, and Thirlwell. Mr. Parkinson flew with "Joy riders" for 1 hr. 15 mins. during the week. Solo, Messrs. Matthews and Ball.

"A" Pilots.—Lord Ossulston, Mr. C. Thompson with Mrs. Heslop; Mr. R. N. Thompson with Miss Monkhouse and Mr. Percy. (It will be of interest to note that Mr. Thompson completed 100 hrs. flying with the Club twelve months after taking up flying training). Mr. Baxter Ellis with Miss Dunford. Mr. J. D. Irving with Mr. Campbell. Mr. H. Ellis with Miss Dunford, and Dr. Dixon. Dr. Dixon with Mr. J. Bell. Mr. Forsyth Heppell with Mr. Westerdale. Lieut. A. P. C. Hannary.

### The Yorkshire Aeroplane Club

REPORT for the week ending January 28:—

The total time flown amounted to 4½ hrs. in 9 flights as follows:—Solo, 3 hrs. 40 mins.; dual instruction, 30 mins.; test, 5 mins.

Mr. Batcock was the only member, who received instruction while the soloists were Messrs. Dawson, Fielden, Lax, Mann, Norway and Wood.

Very little of interest in the flying line has taken place this week, the wind blowing almost continuously at gale velocity throughout the period.

Nevertheless, Mr. Fielden, with his characteristic Yorkshire grit, was determined to brave the elements on Monday. He motored from his home at Skipton to Sherburn and took off in "NN" about noon, steering a course by way of Malton and thence back to the aerodrome. During his 70 mins. flight he found it necessary to keep the Moth at an altitude of about 100 ft. owing to the low-lying nature of the clouds, and he states that at times he appeared to be almost skimming the telegraph wires bordering the main road to York which was followed.

Mr. Fielden's passenger on this occasion was the Rev. O. Shuffrey whose mind during the flight was, no doubt, too pre-occupied with "heavenly" visions to fully appreciate the "earthly" ones he occasionally caught a glimpse of.



# THE ROYAL AIR FORCE

London Gazette, January 28, 1927.

## General Duties Branch

Group Capt. W. R. Freeman, D.S.O., M.C., is apptd. Deputy Director of Operations and Intelligence, Air Ministry (Jan. 24), vice Group Capt. C. S. Burnett, C.B.E., D.S.O.

The following are granted short service commissions as Pilot Officers on probation, with effect from and with seniority of Jan. 15:—K. C. Blatchford, J. D. F. Bruce, H. A. G. Comerford, W. G. H. Ewing, H. Francis, G. A. G. Johnston, R. J. P. Morris, C. Pawley (Sec. Lt., 23rd Lond. Regt., T.A.), C. E. N. Turton. Lt. C. S. Philpott, Ches. R., is granted a temp. comm. as a Flying Officer on secondment for four years' duty with the R.A.F. (Jan. 15). Pilot Officer F. W. Field is promoted to the rank of Flying Officer (Nov. 30, 1926). Pilot Officer on probation E. T. M. Smalley is confirmed in rank (Jan. 8). Sqdn. Ldr. G. Blatherwick is placed on the ret'd. list on acct. of ill-health (Jan. 21). Flight-Lt. C. B. Dick-Cleland is placed on the ret'd. list on acct. of ill-health (Jan. 24). Flight-Lt. J. A. Hollis is transferred to the Reserve, Class A (Jan. 23). Flying Offr. B. A. de Nevers is transferred to the Reserve, Class C (Dec. 5, 1926) (substituted for *Gazette*, Dec. 7, 1926). Pilot Officer L. M. S. Knight relinquishes his short service commn. on acct. of ill-health (Jan. 26). The short service commns. of the follg. Pilot Officers on probation are terminated on cessation of duty:—P. H. Danger (Dec. 22, 1926); G. C. Bainbridge (Jan. 26). R. H. Portal, D.S.C., Commdr., R.N., Flying Officer R.A.F., relinquishes his temp. commn. on return to Naval duty (Jan. 10). Flying Officer D. G. Brodie (Lt., R.A.) relinquishes his temp. commn. on return to Army duty (Jan. 24).

## Stores Branch.

Pilot Officer A. Amy is promoted to rank of Flying Officer (Jan. 25).

## ROYAL AIR FORCE INTELLIGENCE

**Appointments.**—The following appointments in the Royal Air Force are notified:—

### General Duties Branch

**Wing Commanders:** R. E. C. Peirse, D.S.O., A.F.C., to R.A.F. Depot, Uxbridge, whilst attending course at Imperial Defence College, 8.1.27. S. W. Smith, O.B.E., to Air Ministry, Directorate of Organisation and Staff Duties, for Air Staff duties, 8.1.27. E. L. Tomkinson, D.S.O., A.F.C., to R.A.F. Depot, Uxbridge, Supernumerary, whilst attending course at Imperial Defence College, 17.1.27. S. Smith, D.S.O., A.F.C., to R.A.F. Depot, Egypt, for Administrative duties, 2.1.27. H. L. Reilly, D.S.O., to H.Q., Fighting Area, Uxbridge, for Air Staff duties, on transfer to Home Estab., 1.2.27.

**Squadron Leaders:** A. Durston, A.F.C., to R.A.F. Depot, Uxbridge, 1.1.27. W. E. Reason, to No. 1 Stores Depot, Kidbrooke, 24.1.27. G. C. Pirie, M.C., D.F.C., to R.A.F. Depot, Uxbridge, 13.12.26.

**Flight Lieutenants:** H. M. K. Brown, to No. 1 Flying Training Schl., Netheravon, 17.1.27. S. M. Kinkead, D.S.O., D.S.C., D.F.C., to No. 5 Flying Training Schl., Sealand, 25.1.27. J. G. Horne, to No. 19 Sqdn., Duxford, 17.1.27. J. W. F. Merer, to R.A.F. Base, Calshot, 17.1.27. O. R. Gayford, D.F.C., to Heliopolis Details, 19.12.26. C. E. Horrex, A.F.C., to No. 216 Sqdn., Egypt, 19.12.26.

**Flying Officers:** (Hon. Flight Lieut.) A. E. Forrest, to No. 20 Sqdn., India, 16.12.26. J. B. Knocker to Aircraft Depot, India, 16.12.26. V. Rees and E. S. Burns, to H.M.S. "Argus," 19.1.27. G. W. Gay, to Elec. and Wireless Sch., Flowerdown, 24.1.27. C. S. Philpott, to No. 2 Flying Training Schl., Digby, on appointment to a Temp. Commn. on being seconded from the Army, 15.1.27. H. T. R. Cripps, to Central Flying Schl., Wittering, on transfer to Home Estab., 18.1.27. E. S. Borthwick-Clarke to H.Q., Fighting Area, Uxbridge, 15.1.27. E. R. Hockaday, to No. 2 Stores (Ammunition) Depot, Altrincham, 3.1.27. H. A. Anson, to No. 56 Sqdn., Biggin Hill, 19.1.27. E. A. Hodgson, to Experimental Section, R.A.E., S. Farnborough, 1.2.27. E. S. C. Vaughan, M.C., to R.A.F. Depot, Uxbridge, 15.1.27. (Hon. Flight-Lieut.) A. W. Bates, to No. 4 Flying Training Schl., Egypt, 15.1.27. G. J. Southam, to R.A.F. Depot, Egypt, 25.12.26.

**Pilot Officers:** N. C. H. Barrett, K. C. Blatchford, J. D. F. Bruce, H. A. G. Comerford, W. G. H. Ewing, H. Francis, C. Pawley, C. E. N. Turton, and R. J. P. Morris; all posted to No. 2 Flying Training School, Digby, on appointment to Short Service Commns. (on probation), with effect from 15.1.27. A. R. S. Davies, R. F. Gandy, L. L. K. Honeyball, J. B. Knapp, A. McKee, J. H. L. Maund, P. C. Miller, H. F. Suren, F. J. Taylor, C. K. Turner, and J. W. Wood, to No. 4 Flying Training School, Egypt, 15.1.27. E. G. Seanson to No. 4 Sqdn., S. Farnborough, 10.1.27. J. G. Foreman, G. Selk, L. C. L. Murray, E. H. Irving, F. Townsend, A. A. Koch and C. H. A. Colman, to R.A.F. Depot, Uxbridge, on appointment to Short Service Commissions, 17.1.27. M. A. Cowan to No. 2 Flying Training Schl., Digby, on transfer to Home Estab., 17.1.27.

## Stores Branch.

**Flight-Lieut.:** F. S. Moore, to R.A.F. Depot, Uxbridge, on transfer to Home Estab.; 19.2.27.

## Medical Branch

The undermentioned Flying Officers are promoted to rank of Flight-Lt. (Jan. 28):—C. G. J. Nicolls, M.B., B. Pollard. The seniority of Flying Officer E. Thompson as a Flying Officer is antedated to Nov. 22, 1925.

The undermentioned are granted temp. commissions in ranks stated on attachment to R.A.F. They will continue to receive emoluments from Army sources:—FLIGHT LT.—E. Alston (Temp. Capt., General List, Army, Dental Surgeon) (Jan. 8). FLYING OFFICER.—H. P. Sutcliffe (Temp. Lt., General List, Army, Dental Surgeon) (Jan. 6).

Flight-Lt. H. J. Higgins (Capt., Army Dental Corps), relinquishes his temp. commn. on return to Army duty. Squadron Leader J. G. Worsley (Maj., Army Dental Corps) relinquishes his temp. commn. on resignation of his Army commission (Jan. 6).

## Reserve of Air Force Officers

The undermentioned relinquish their commissions on completion of service: FLYING OFFICERS.—P. Bailey, K. F. Jones (Dec. 5, 1926); W. C. Pruden (Dec. 9, 1926); E. N. Hewitt, L. J. Hoare, J. T. Rogerson (Dec. 12, 1926); C. B. Waters (Dec. 19, 1926). PILOT OFFICER.—W. V. Piggott (Jan. 22).

Flying Officer P. Harris relinquishes his commission on account of ill-health, and is permitted to retain his rank (Jan. 26).

## AUXILIARY AIR FORCE

### General Duties Branch.

The undermentioned to be Pilot Officers:—No. 600 CITY OF LONDON (BOMBING) SQUADRON.—E. J. Earnshaw. No. 601 COUNTY OF LONDON (BOMBING) SQUADRON.—A. G. Haward (Jan. 25).

### Accountant Branch.

The undermentioned to be Pilot Officer:—No. 603 CITY OF EDINBURGH (BOMBING) SQUADRON.—J. L. Jack (Jan. 25).

**Flying Officers:** A. J. Redman, D.F.C., to H.M.S. *Argus*; 19.1.27. R. F. Wilson, to H.Q. Air Defence of Great Britain, Uxbridge; 10.1.27. F. A. Ormerod, to No. 4 Stores Depot, Ruislip; 10.1.27. R. M. Thomas, to No. 39 Sqdn., Spittlegate; 31.12.26.

**Wing Commander** F. C. Williams, O.B.E., to H.Q. Iraq, for Stores Staff duties, 15.1.27.

**Flight Lieutenants:** F. J. W. Humphreys to H.Q. Inland Area, Stanmore, 20.1.27. R. Craig to R.A.F. Depot, Egypt, 20.12.26.

**Flight Lieutenant** F. H. Sims to H.Q. Iraq, 15.1.27.

**Flying Officers:** W. T. Lewis to H.Q., Egypt, 31.12.26. J. Davison to No. 70 Sqdn., Iraq, 2.1.27.

**Pilot Officers:** E. G. M. Charleson to No. 14 Sqdn., Palestine, 30.12.26. L. Taylor to No. 207 Sqdn., Eastchurch, 21.1.27. E. J. Fishenden to Stores Depot, Iraq, 15.1.27.

### Accountant Branch.

**Flight-Lieut.:** I. L. Wincer, to Marine Aircraft Experimental Estab., Felixstowe; 21.1.27.

**Flight Lieutenant:** J. S. Griffiths to Stores Depot, Iraq, instead of to Brigade Accountant Office as previously notified, 7.12.26.

**Flying Officers:** F. C. Chalmers to No. 6 Sqdn., Iraq, 30.12.26. H. A. Murton to H.Q. Accountant Office, Iraq, instead of to Stores Depot, as previously notified, 1.11.26. J. O. Morrison to H.Q. Accountant Office, Iraq, instead of to No. 6 Sqdn. as previously notified, 7.12.26.

**Pilot Officers:** W. S. Calder to R.A.F. Training Base, Leuchars, 18.1.27. R. S. Sweet to R.A.F. Base, Gosport, 18.1.27. H. D. Connor, to No. 24 Sqdn., Kenley, 18.1.27. H. C. Bakes, to No. 5 Flying Training Schl., Sealand, 18.1.27. J. H. E. Gregson, to No. 9 Sqdn., Manston, 18.1.27. B. Chadwell, to R.A.R. Depot, Uxbridge, 18.1.27. D. A. K. Viend to No. 1 Flying Training Schl., Netheravon, 18.1.27. J. H. Glenn, to R.A.F. Station, Duxford, 18.1.27. C. M. Johnson to No. 1 Sch. of Tech. Training (Apprentices), Halton, 18.1.27.

### Medical Branch.

**Flying Officers:** M. D. Rawkins, M.B., B.S., to No. 2 Flying Training Schl., Digby; 12.1.27. J. E. Foran, M.B., and M. O'Regan, to Research Lab. and Med. Officers' Sch. of Instruction on appointment to Short Service Commns.; 4.1.27. F. F. Auslow (Dental), to R.A.F. Station, Tangmere; 24.1.27.

**Squadron Leaders:** A. F. Rook, M.R.C.P., D.P.H., to H.Q. Iraq, 17.12.26. F. E. Johnson to Palestine General Hospital, 28.12.26. R. S. Overton to Basrah Combined Hospital, Iraq, 30.12.26. H. S. C. Starkey, O.B.E., M.D., M.A., to R.A.F. British Hospital, Iraq, 1.1.27.

**Flight Lieutenants:** E. G. Howell to Palestine General Hospital, 18.12.26. C. P. Barber to R.A.F. British Hospital, Iraq, 1.1.27.

**Flight Lieutenant (Dental):** E. Alston to H.Q., Halton, on appointment to a Temporary Commn., 8.1.27.

**Flying Officers:** W. D. McKeown, M.B., to No. 208 Sqdn., Egypt, 30.12.26. E. J. Jenkins to No. 216 Sqdn., Egypt, 30.12.26.

**Flying Officer (Dental):** H. P. Sutcliffe, to R.A.F. Depot, Uxbridge, on appointment to a Temp. Commn., 6.1.27.

## VACANCIES FOR 500 AIRCRAFT APPRENTICES

THE Air Ministry announces:—Five hundred aircraft apprentices, between the ages of 15 and 17, are required by the Royal Air Force for entry into the Schools of Technical Training at Halton, Bucks., and at Flowerdown, near Winchester. They will be enlisted as the result of an Open Competition and of a Limited Competition held by the Civil Service Commissioners and the Air Ministry respectively. Successful candidates will be required to complete a period of 12 years' regular Air Force service from the age of 18, in addition to the training period. At the age of 30 they may return to civil life or may be permitted to re-engage to complete time for pension. Full information regarding the aircraft apprentice scheme, which offers a good opportunity to well-educated boys of obtaining a three years' apprentice course of a high standard and of following an interesting technical career, can be obtained on application to the Royal Air Force, Gwydyr House, Whitehall, London, S.W.1.

Approximately 3,500 aircraft apprentices have already completed their training at the technical schools of the Air Force, and the annual output is now in the neighbourhood of 1,000 fully trained aircraftmen.

The Open Competition, for which a fee of 5s. is charged, is open generally to boys within the age limits who forward completed application forms to the Secretary, Civil Service Commission, Burlington Gardens, London, W.1, not later than March 10. The sons of officers, warrant officers, and senior N.C.Os. of the three services receive special consideration. In their case applications for nomination should be made to the Secretary, Air Ministry, Kingsway, London, W.C.2, not later than March 1.

All candidates for the Limited Competition must receive a nomination before

they can attend this examination. These nominations must be received by the Air Ministry from the nominating authorities not later than May 3. If they are still at school, candidates should apply to their headmaster with a view to obtaining a nomination from the Local Education Authorities; if they have left school, application can be made either to the Local Education Authority or to the Advisory Committee for Juvenile Employment in their area. There is no fee for this examination, which is carried out at local centres in each area where boys are nominated.

The principal trades open to boys are carpenter-rigger, aero-engine fitter and wireless operator-mechanic. The apprentices are given a thorough training in their trade by highly-qualified technical instructors and their general education is also carried on simultaneously by a staff of graduate teachers.

During the training period the rate of pay is 7s. a week for the first two years and 10s. 6d. a week thereafter until the apprentice has both attained the age of 18 and been posted to a unit on completing his training. When he is posted to a unit for duty as an aircraftman, the rate of pay varies from 3s. 3d. to 5s. 6d. per day, according to the success attained in the passing out examination. He also receives free board and lodging. In addition, a few apprentices of special promise proceed to the Royal Air Force Cadet College for training with a view to becoming Commissioned officers.

For the remainder, opportunities arise later to volunteer to qualify in flying and become sergeant pilots. Selection to the number of about 60 is made annually from volunteers of all trades. From amongst sergeant pilots a few are periodically selected for commissioned rank.



## CORRESPONDENCE

[The Editor does not hold himself responsible for opinions expressed by correspondents. The names and addresses of the writers, not necessarily for publication, must in all cases accompany letters intended for insertion in these columns.]

### THE SAFETY FUEL TANK

[2149] In the AIRCRAFT ENGINEER supplement of your current issue Capt. Boothby, in his interesting article on this subject, refers to the gases in the upper part of a petrol tank as being an "explosive mixture." I have investigated this matter on various occasions with a match, and, so far, I have always found that the mixture is so rich that it can only burn where its surfaces is in contact with the air, and that the match is extinguished on penetrating the mixture. I have carefully avoided putting a match to large containers unless there was sufficient petrol in them, and it had had sufficient time to saturate the air; for until then the mixture itself will usually be combustible: this is easily demonstrated on a small scale.

Capt. Boothby can surely never have dropped a match into a partly-filled petrol tin, or he would have seen that, instead of the "evil results" he predicts, the vapour burns quite tamely at the opening, and can be put out by placing one's hand on it. (This forms an amusing study in knee-flutter if practiced on, say, a fire insurance inspector who should know better; but don't wait till the brass is too hot.) It therefore follows that in a crash the vapour must be exposed to the air in much the same way as must the petrol before it will burn—instead of being "ready to ignite," as Capt. Boothby states.

Regarding dropping a match into liquid petrol, a flame will certainly be started as the match passes the boundary between the air and the vapour which is leaving the petrol surface. If a layer of inert gas were interposed nothing would catch fire, but if a match were used (not its tip) it would be extinguished by the layer (if thick) before reaching the petrol.

In pointing out these circumstances in which petrol is tame, I do not wish to obscure the fact that when exposed to the air in large areas it is furious.

West Ealing,  
January 29, 1927.

W. E. GRAY

### The Heat in the Heart of Africa!

ONE letter in a word often makes a lot of difference. Such was the case regarding the Bristol Aeroplane Co.'s advertisement in last week's issue of FLIGHT. Referring to Lieut. Bernard's Madagascar flight, a paragraph in this advertisement read "... then steadily southwards and eastwards through the very heat of Africa ...". While we do not deny the temperature in this part of the world is somewhat high, we wish to point out that this sentence should have read "heart of Africa". Possibly our compositor felt the cold rather more than usual when setting up this paragraph!

### R.A.F. Recruiting

THE Air Ministry announces that the Headquarters of the Inspector of Recruiting and the London Recruiting Depot of the R.A.F., which since shortly after the war have been centred at Henrietta Street, Covent Garden, will, from January 31, be located at Gwydyr House, Whitehall, S.W.1.

### Inter-Services Rugby

THREE very interesting Rugby matches are to be played shortly at the Twickenham ground, in two of which the R.A.F. take part. We refer to the Inter-Services Tournament between the Army, Navy and Air Force. The dates of the three matches have been fixed as follows:—February 19, R.A.F. v. Navy; March 5, Army v. Navy; March 26, R.A.F. v. Army.

### Institution of Aeronautical Engineers (Manchester Branch)

THE Manchester Branch of the Institution of Aeronautical Engineers has just been reconstructed on sound and progressive lines. The branch is under the chairmanship of Mr. R. H. Dobson—Works Manager of A. V. Roe and Co., Ltd.—so that a successful future for this Manchester Branch may be taken for granted, bearing in mind that gentleman's energy and enthusiasm. The Hon. Secretary and Treasurer is Mr. A. Dennison Scarlett, M.I.Ae.E., of Foxbank Street, C.-on-M., Manchester.

### R.A.F. Units for China

IN connection with precautionary measures taken by the Government regarding the trouble in China, aircraft are represented by three aircraft carriers, namely, H.M.S. "Vindictive," "Hermes," and "Argus." The units on the two former are as follows:—

H.M.S. "Vindictive" (cruiser, China station, carrying aircraft): No. 401 (Fleet Fighter) Flight—Fairey "Flycatcher." No. 444 (Fleet Reconnaissance) Flight—Fairey III.D.

H.M.S. "Hermes" (aircraft carrier, Mediterranean): No. 403 (Fleet Fighter) Flight—"Flycatcher." No. 440 (Fleet Reconnaissance) Flight—Fairey III.D.

H.M.S. "Argus" (aircraft carrier) has only just been commissioned, and it is not possible to obtain an official statement of the units allotted to her. Press reports have stated that the following flights will be allotted: No. 406 (Fleet Fighter) Flight—"Flycatcher" (from Donibristle). No. 443 (Fleet Reconnaissance) Flight—Fairey III.D. (from H.M.S. "Furious," Leuchars). No. 442 (Fleet Reconnaissance) Flight—Fairey III.D. (from Leuchars).

It has also been announced that No. 402 (Fleet Fighter) Flight ("Flycatcher") from H.M.S. "Eagle" (Mediterranean) will be transferred to the "Argus." A flight of the Fleet air arm, it may be mentioned, consists of six first line machines, but in cases of emergency reserve machines will also have to be carried.

### NEW COMPANIES REGISTERED

THE BRITISH SCHOOL OF FLYING, LTD., 5 and 6, Coventry Street, W.1.—Capital £100 in 1s. shares. Objects: To establish and maintain in London and elsewhere institutions for instructing and training persons in the science of aeronautics, and all other kinds of engineering and aviation, etc. First directors, S. C. H. Roberts, E. W. Walton (both directors of the British School of Motoring, Ltd.).

EMMS, THORNE & SHEEHY, LTD., 215, Richmond Road, Kingston-on-Thames.—Capital, £100 in £1 shares. Aeronautical (sic), electrical, motor and general engineers, garage proprietors, manufacturers of and dealers in aeroplanes, airships. Life directors, S. Emms, T. Thorne, T. P. Sheehy.

### PUBLICATIONS RECEIVED

Aluminium Facts and Figures. The British Aluminium Co., Ltd., Adelaide House, King William Street, London, E.C.4.

The Air Pilot Monthly Supplement, No. 27. January, 1927. Air Ministry, Kingsway, London, W.C.2.

Theory and Practice in the Hardening Shop. Heat Treatment Bulletin, No. 37. January, 1927. Automatic and Electric Furnaces, Ltd., 173-175, Farringdon Road, London, E.C.1.

### AERONAUTICAL PATENT SPECIFICATIONS

(Abbreviations: Cyl. = cylinder; i.e. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.)

#### APPLIED FOR IN 1925

Published February 3, 1927

- 19,834 E. E. J. and E. A. M. BONNEAU. Automatic controlling means for aircraft, torpedoes, &c. (238,242.)
- 22,422. A. HALL-BROWN. Supercharging of internal-combustion engines. (263,907.)
- 25,922. SUPERMARINE AVIATION WORKS, LTD., and R. J. MITCHELL. Aircraft. (263,968.)
- 28,983. A. G. BARRETT. Aerial advertising. (263,986.)
- 29,175. J. DE LA CIERVA. Aircraft with rotative wings. (263,988.)

#### APPLIED FOR IN 1926

Published February 3, 1927

- 32,878. E. E. J. and E. A. M. BONNEAU. Automatic controlling means for aircraft torpedoes, &c. (264,115.)

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